

# The Types of Ownership and Sticky Cost: Evidence from Listed Firms of Indonesia Capital Market

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## Abstract

This study examines whether ownership structure type of listed banks of Indonesia Stock Exchanges (IDX), especially State of Owned Banks (SOBs) affect to cost stickiness. This study observes listed state-owned banks during the periods of 2001-2020. This study finds that ownership structure type of listed banks of IDX, i.e. SOBs, affects to cost stickiness are not supported. However, cost stickiness of listed SOBs of IDX relates to asset and employee are supported. However, a SOBs purpose to profit-oriented, but they also commit to government programs, i.e. reducing unemployment and expanding job opportunities. Overall, the findings of this study indicate that SOBs do not influence cost stickiness, but there are differences between high and low asset and employee SOBs. This study contributes to literatures of financial accounting and finance in banking sector, particularly SOBs.

**Keywords** : Indonesia Stock Exchanges; ownership structure; State-Owned Bank; sticky cost.

**JEL Classification** : M410, C12, L52\*

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## 1. INTRODUCTION

This study examines whether the type of listed banks ownership of the Indonesia Stock Exchange (IDX) influence cost stickiness. The topic of studies regarding the factors of economic performance and cost stickiness of the firms has emerged as a vital issue in the development of the financial accounting and finance literature. The credibility of disclosure and information providers are important factors to reduce the asymmetry of information between the managers of the firms and investors (Healy & Palepu, 2001). Refinitiv Eikon/Thomson Reuters, MSCI, and Bloomberg are independent information providers that serve as databases for the community of investors, creditors, academics and financial analysts. The prior of studies indicated that the information relate to the value of the firms are matter for investors (Meythi, 2012, 2014; Oktavianti, Meythi, & Martusa, 2014)

A large number of studies have stated that economic performance (factors) affect the firm's cost stickiness (Anderson, Banker, & Janakiraman, 2003; Dierynck, Landsman, & Renders, 2012; Banker, Byzalov, & Chen, 2013; Banker & Byzalov, 2014; Hall, 2016; Prabowo, Hooghiemstra, & Van Veen-Dirks, 2018). Banker and Byzalov (2014) suggested

that the costs of firms are an important fundamental factor of earnings, therefore the cost stickiness of the firms contributes significantly to financial accounting studies in understanding the time series of earnings, the quality of earnings, the predicts of earnings, the earnings manipulation detection and the forecast of earnings by analyst (analyst's earnings forecast). The theory of how to costs behave stated that the costs vary equally following to the variation of their activities (Garrison, Noreen, & Brewer, 2018).

Based on cost behavior, cost accounting literature categorizes two types of costs, i.e. variable and fixed. The costs which vary based on the changing of activity are variable costs. The other side, the fixed costs are cost which don't vary based on the changing of activity. Therefore, Banker and Byzalov (2014) stated the costs are sticky if the changing of adjustment costs are significant but not too high. The highest of adjustment costs changing to be fixed cost or the variable costs incur because the lowest of adjustment costs changing.

The costs become sticky because the discretion of managers of the firms to adjust costs on the resources of committed which are assigned to the firm's activities in predicting the level of sales volatility. The decision to adjust these resources can affect the firm's investment expenditure related to assets and employees (Anderson et al., 2003). The managements of the firms make policies to adjust committed resources in current and future such as employee costs to the applicable regulations in a country. For example, the firms do not reduce employee costs when the sales of the firms fall to meet government regulations that strictly protect employees (Banker et al., 2013) and profit benchmark incentives (Dierynck et al., 2012). The firms do not cut the cost of its employees when sales drop, then the firm will bear the unused capacity in its operations. Then prior study also stated that earnings quality influence cost stickiness (Martusa, Meythi, & Dharmawan, 2022).

Prior studies have examined banking sector related to state-owned in Europe (Bacchiocchi, Ferraris, Florio, & Vandone, 2019), in China (Zhang, Wang, Wei, & Sono, 2020), in Ghana (Kusi, Kriese, Nabieu, & Agbloyor, 2022), and across countries (Panizza, 2023). Meanwhile, the Government of Indonesia is improving its financial system and economy by focusing on three things, namely infrastructure funding by State-Owned Enterprises (SOEs), liquidity in the banking sector and funding in the private and public bond markets (Triggs, Kacaribu, & Wang, 2019). The SOEs is a government agency as well as a private firm. On the one hand, SOEs are funded by separate state assets and function as services. However, SOEs are also clearly accountable to investors to compete in generating profits. SOEs increase cost stickiness (Prabowo et al., 2018) but in Europe and not in Indonesia. The type of ownership structures in banking influence sticky cost (Hall, 2016) in US and not in Indonesia.

The banking industry sector is an institution that influences society. Because banks are not only competing to generate profits for investors but are also required to comply with regulations issued by the central bank (Hall, 2016). Therefore, the manager's decision to manage the cost of banking operations in competing in the industry is very vital.

Among the Government Twenty (G20) countries, Indonesia has the growth of economic growth in ranked 2nd (Ratung, 2021). The Indonesian economic system is related to banking and the capital market. In addition to capital market, banks are competitive institutions and are regulated by the government. Thus, this study purpose to examine whether the type of listed banks ownership of the IDX influence cost stickiness.

This study aims to investigate whether the type of listed bank ownership affects the cost stickiness. Hall (2016) empirically proves that the structure of bank ownership has an effect on cost stickiness in the United States Capital Market. Both public and private banks will cut their employees' costs when they face financial reporting pressures (i.e. declining profits) and the regulation of ownership capital required by the central bank. Meanwhile, the types of bank ownership in Indonesia consist of state-owned banks, national private-owned banks, cooperative-owned banks and foreign-owned banks (Putra Hrp & Saraswati, 2020). This study intends to investigate whether state-owned banks listed on the BEI cause cost stickiness.

Currently, the types of bank ownership listed on the Indonesian Capital Market are only state-owned banks and national private banks. Although state-owned banks pursue profits, state-owned banks also carry out government programs, namely reducing unemployment and expanding employment opportunities. State-owned banks may not cut employee costs when service sales fall compared to private banks. Therefore, state-owned banks will bear the cost of adjusting employees to capacity that is not used in their operations. The decision of firm managers to adjust costs related to the resources assigned to the firm's activities in predicting the level of sales which volatility will cause cost stickiness (Anderson et al., 2003). Thus, this study proposes to investigate whether the type of listed state-owned banks of the IDX has an effect on cost stickiness.

This study finds empirical evidence that the ownership type, i.e. listed state-owned banks of the IDX influence cost stickiness are not supported. However, the cost stickiness of the state-owned banks related to the sub-sample of high asset intensity and low employee intensity are supported. This result shows that the cost stickiness that incurs in listed state-owned banks listed of the IDX are not significant.

This study gives the contribution of theories and practices. This study contributes theories, i.e. the literatures of financial accounting and finances in the banking sector related to the topic of cost stickiness to regulatory pressures and employee costs. This study also contributes practices to the implementation of SOEs banking regulations in the Indonesian Capital Market.

## **2. HYPOTHESES DEVELOPMENT**

### **Sticky Cost**

Banker and Byzalov (2014) suggested that traditional cost behavior concept is the relationship of symmetric and mechanistic between sales and cost of the firms which to be fixed and variable costs. The concept stated that costs vary equally following to the variation of their activities (Garrison et al., 2018). The costs that do not vary following to the variation of the activity in the short term are fixed costs. Meanwhile in the short term, variable costs are costs that vary equally following to the variation of the activity. The variable cost and fixed cost are different in the range of relevance between the cost relationship and the level of activity. Fixed cost per unit will not change as long as it is relevant in the short term.

If the fixed cost per unit exceeds the relevant range, the manager must consider a lumpy sum in order to increase or decrease the committed resources. However, variable costs can be increased or decreased according to the firm's operational needs without depending on the lumpy amount. The variation of variable costs only related to simultaneous variation of activities and not to the direction of variation.

However, Anderson et al. (2003) show that costs, i.e. Selling, General & Administrative (SGA), have a relationship which asymmetric and opposite with the traditional cost behavior model. The costs of SGA only fall slightly when sales fall and they rise more when sales increase at equivalent volume. The costs model are called sticky cost. Banker and Byzalov (2014) highlight that cost stickiness is related to the discretion of manager to adjust the costs to committed resources. The previous studies have indicated that the costs are sticky in associated with, i.e. labor cost behavior (Dierynck et al., 2012), earnings target (Kama & Weiss, 2013), tax avoidance (Xu & Zheng, 2018), board characteristics (Ibrahim, 2018), Research and Design Costs (Hei Cheung, Sung Hur, & Jong Park, 2019), Corporate Social Responsibility (Habib & Hasan, 2019), management earnings forecasts (Han, Rezaee, & Tuo, 2019) and labor adjustment cost (Golden, Mashruwala, & Pevzner, 2020).

The prior literatures suggested that the asymmetric costs behavior is sticky cost based on the standard explanation. The decision of managers which focus on self-interest cause cost behavior asymmetrically. The managers prefer to more focus on their benefit than the benefit of shareholders. When the cost of adjustment is high/low then the decision of managers to retain/mitigate the resources of firms. For example, the firm's managers tend to do management earnings forecasts (Han et al., 2019). Martusa et al. (2022) also give empirical evidence that earnings quality influence asymmetric cost behavior, especially cost stickiness.

Asymmetric cost behavior also occurs due to the manager's consideration related to asset and employee of the firms. The adjustment costs that arise from the asset and employee, i.e. the costs of customization for new assets of the firms, the costs to select and train the workers, or the costs of potential contract negotiation. The magnitude of the costs that are adjusted so that the firm's managers will slack resources or cut costs based on the lumpy amount, resulting in sticky costs. In addition, the firm's managers' judgment is also affected by their projections for the sales in the future, the slack resources of the earlier time, and the incentives of managers (Banker & Byzalov, 2014).

The magnitude of sticky costs is significantly influenced by labor costs or employee intensity (Dierynck et al., 2012). Prior study stated that the costs behave asymmetrically in the firms which have good profits (Dierynck et al., 2012). As a result, even if demand falls, they do not reduce their costs; instead, firm managers simply adjust their working hours. Previous study also stated that in countries with strict labor regulations, the firms tend not to reduce labor costs when demand decreases and lead to sticky cost (Banker et al., 2013).

### **Sticky Cost and the Types of State-Owned Bank**

Hall (2016) empirically proves that the ownership structure of the bank has an effect on cost stickiness. Both public and private banks will cut their employees' costs when they face financial reporting pressures (i.e. declining profits) and the regulation of ownership capital required by the central bank. Hall (2016) uses public and private commercial bank during the 1997-2006 period from the Form Y-9C report based on the CRSP identifier of the Federal Reserve Bank in New York.

Prabowo et al. (2018) shows that the level of labor cost stickiness is higher in SOEs than private firms in 22 European countries. The socio-political perspective suggests that the state may intervene in the decision-making process of SOEs to win political support by preventing dismissals to reduce the unemployment rate. The variable year of election and left-wing government influence the level of sticky cost of the firm. The study of Prabowo

et al. (2018) uses annual data from listed non-financial firms in Europe during the period 1993-2012.

After the global economic crisis in 2008, the Financial Services Authority (FSA) and the Deposit Insurance Corporation (DIC) made improvements and reforms to the financial system in Indonesia. It aims to make financial institutions in Indonesia more stable, resilient, efficient, inclusive, and grow sustainably (Pemerintah RI, 2020). A bank is a type of business that takes money from the general public in the form of savings and then gives it to the general public in the form of credit or other forms to raise their standard of life (Pemerintah RI, 1998). Banks are highly competitive institutions and are regulated by government regulations. Hall (2016) empirically proves that the structure of bank ownership influences cost stickiness in the United States and not in Indonesia.

Prabowo et al. (2018) stated that SOEs increase cost stickiness. However, the cost stickiness occurs based on a socio-political perspective, namely the state may intervene in the SOEs decision-making process to win political support by preventing dismissals to reduce the unemployment rate (Prabowo et al., 2018). The study of Prabowo et al. (2018) uses a sample of firm data in Europe and not in Indonesia and the firm is a non-financial sector not the banking sector.

Types of bank ownership listed on the Indonesian Capital Market are state-owned banks and national private banks. SOBs is a limited liability firm whose capital is divided into shares of which all or at least 51% (fifty one percent) of its shares are owned by the Republic of Indonesia whose main purpose is to pursue profit (Pemerintah RI, 2003). Although state-owned banks pursue profits, state-owned banks also carry out government programs, namely reducing unemployment and expanding employment opportunities. SOBs may not cut employee costs when service sales fall compared to private banks. Therefore, state-owned banks will bear the costs of adjustments related to employees to unused capacity in their operations. The decision of firm managers to adjust costs related to the resources assigned to the firm's activities in predicting the level of sales volatility will cause cost stickiness (Anderson et al., 2003). Thus, if the preceding argument is correct, this study hypothesizes the following.

H<sub>1</sub>: The type of ownership structure influence cost stickiness.

### **3. METHOD, DATA, AND ANALYSIS**

#### **Data Sampling**

The method of purposive sampling is utilized by this study, i.e. during periods of 2001 to 2020. This study intends to measure the investment decisions of bank managers, especially assets and employees to changes in demand for services in banking in the form of SOEs listed on the Stock Exchange Indonesian Securities (IDX). This study uses data stream for SOBs listed on the IDX.

The sample of this research consists of SOBs listed on the Indonesia Stock Exchange during 2001-2020 periods. The observation of the sample is 750 firms-years. But the firms in the banking sector of the IDX are 42 banks and the number of SOBs of the IDX are five banks. As a result, the total number of sample observations is 100 banks per year. Therefore, the technique of winsorizing is utilized by this study to mitigate outliers of the data. Then the technique of interquartile range to winsorize the sample data of this study.

### Method, Empirical Model and Analysis

This study examined the hypothesis using the empirical model from the study of Anderson et al. (2003) and Dierynck et al. (2012).

$$\ln \frac{LC_t}{LC_{t-1}} = \beta_0 + \beta_1 \ln \left[ \frac{S_t}{S_{t-1}} \right] + \beta_2 \ln \left[ \frac{S_t}{S_{t-1}} \right] \times DD_t + \varepsilon \quad (1)$$

The empirical model of this study uses Labor Cost (LC) as the independent variable.  $LC_t$  is the labor costs for the bank in year t scaled by  $LC_{t-1}$ , which is the labor costs of the bank in year t-1. Then sales ( $S_t$ ) are the degree of activity of the bank in year t scaled by sales ( $S_{t-1}$ ) are the degree of activity of bank in year t-1. When sales in year t are lower than sales in year t-1, The value of Decrease Dummy (DD) is 1; when sales in year t are higher than sales in year t-1, The value is 0.

The coefficient of  $\beta_1$  measures the percentage increase in LC with a 1% increase in sales. The sum of the coefficients ( $\beta_1 + \beta_2$ ) measures the percentage decrease in LC with a 1% decrease in sales. A positive coefficient for  $\beta_1$  and a negative coefficient for  $\beta_2$  confirm that the costs are sticky.

This study also examines asset intensity and employee intensity of the bank according to the study of Hall (2016). Asset intensity (AI) is the ratio of non-financial assets (property, plant & equipment) divided by the bank's total income. Employee Intensity (EI) is the ratio of the number of employees divided by the bank's total income multiplied by 1000. The asset and employee intensity used by this study is in accordance with Hall (2016).

This study uses the empirical model aims to investigate state-owned bank type affect the decision of manager in investment, i.e. employee and asset. Because of this study also measures employee and asset related with the characteristics of state-owned bank, particularly in Indonesia. Although the study of Hall (2016) have examine state-owned bank in US and he found that state-owned bank in US tend to cut labor cost to avoid financial pressure from public so that there were not the sticky costs in state-owned bank in US. On the other hand, Indonesia's state-owned banks have a commitment to eliminate unemployment and expand employment opportunities in the country. As a result, this study hypothesizes that there are disparities in cost stickiness between state-owned banks in the United States and Indonesia.

This study uses AI and EI as catalysts to divide the sample into two sub samples. This study divides the sample using the mean AI and EI. The sub sample consist of high and low of employee and asset intensities. Each sub sample (HAI and LAI as well as HEI and LEI) was examined using the empirical model of this study. Then each test result of the sub-sample was tested differently using the inter-regression coefficient test from Clogg, Petkova, and Haritou (1995).

### Testing the Coefficients between Regressions based on Asset Intensity and Employee Intensity.

This study tested the hypotheses, i.e. the type of bank ownership has an effect on cost stickiness. The hypothesis testing was expanded based on the asset and employee intensity (AI & EI) of the bank. The test is divided into two group samples based on the AI and EI scores of listed SOBs on the IDX. The both of group sample are tested by regression. Each of the result is examined by the equation the following.

$$z = \frac{(\beta_1 - \beta_2)}{\sqrt{SE_1^2 + SE_2^2}} \quad (2)$$

Sources by: Clogg et al. (1995)

Notes:

$\beta_1$  and  $\beta_2$ : the coefficient of regression from each group.

$SE_1^2$  and  $SE_2^2$ : the coefficient of standard error squared from each group.

#### 4. RESULTS

##### Descriptive Statistics

Table 1 shows the descriptive statistics of all the variables used to investigate the hypotheses of this study. The variables vary only slightly for median and mean. The variables also have a normal distribution. The mean and median values of the sticky interaction factors, on the other hand, are near to zero. This finding indicates that the revenue of the firms is growing rather than declining.

**Table 1.** descriptive statistics of data samples  
Costs stickiness of listed banks during 2001-2020 periods

Variable	Mean	Med	SD	Q1	Q3	Min	Maks	N
$\ln \frac{LC_t}{LC_{t-1}}$	0.113	0.110	0.084	0.060	0.160	-0.070	0.327	100
$\ln \left[ \frac{S_t}{S_{t-1}} \right]$	0.120	0.117	0.103	0.060	0.190	-0.146	0.380	100
$\ln \left[ \frac{S_t}{S_{t-1}} \right] \times DD_t$	-0.005	0	0.031	0	0	-0.146	0.116	100

Notes. LC: Labor Costs; S: Sales Revenues; SxDD: interaction of sales and decrease dummy are sticky costs.

Table 2 shows that this study have performed the classic assumption test. This study met the requirements of multicollinearity, autocorrelation, and heteroscedasticity. This study also indicates that the data distribute normal. So, the result of this study shows that the basic model of cost stickiness has best linear unbiased estimation.

**Table 2.** Testing of the classic assumptions

Labor Cost			
Multicollinearity	VIF < 10 Tolerance > 0.10	$\Delta S$	1.324
		Sticky	1.324
		$\Delta S$	0.755
Autocorrelation	Run Test $\rho > 0.05$	Sticky	0.755
			0.853
Heteroscedasticity	Park Test $\rho > 0.05$	$\Delta S$	0.142
		Sticky	0.110
Normality	Kolmogorov-Smirnov Test $\rho > 0.05$		0.280

Table 3 indicates that the results of this study hypothesis examine about the listed SOBs of the IDX for the period 2001-2010. The coefficient  $\beta_1 = 0.517$  (t statistic= 6.673), < 0.01) states that labor costs increased by 0.517% against 1% increase in total income. The coefficient of  $\beta_2$  is negative at -0.301 and is not significant. The coefficient with a negative sign indicates that the cost stickiness occurs in state-owned banks listed on the IDX but is not significant.

$$\ln \frac{LC_t}{LC_{t-1}} = \gamma_0 + \gamma_1 \ln \left[ \frac{S_t}{S_{t-1}} \right] + \gamma_2 \ln \left[ \frac{S_t}{S_{t-1}} \right] \times DD_t + \varepsilon \quad (1)$$

**Table 3.** the result of hypothesis regression testing  
Regression test results for the sample of State-Owned Banks

Variable	Labor Costs
$\beta_1 = \ln \left[ \frac{P_t}{P_{t-1}} \right]$	0.517*** (6.673)
$\beta_2 = \ln \left[ \frac{P_t}{P_{t-1}} \right] \times DD_t$	-0.301 (-1.155)
Constanta	0.050 (4.105)
Observation	100
Adjusted R <sup>2</sup>	0.329

Note. \*\*\*  $\rho < 0.01$ ; \*\*  $\rho < 0.05$ ; \*  $\rho < 0.10$ . The values in parentheses represent the t statistic.

### Testing Empirical Research Models based on Asset and Employee Intensity

This study also conducted an extended test of the basic model of cost stickiness as carried out by the study of Anderson et al. (2003) and Dierynck et al. (2012). This study examines the cost stickiness based on asset intensity. Table 4 shows that the results of the regression testing of the high and low asset intensity sub samples. The regression test findings for the coefficient  $\beta_2$  in the high asset intensity sample group, there is a cost stickiness of -0.881 which is significant at the 0.05 level. The results of the regression test in the low asset intensity sample group were not significant.

Table 4 also shows that the results of the regression testing of the sub-sample of high and low employee intensity. The results of the regression test in the high asset intensity sample group were not significant. But the results of the coefficient  $\beta_2$  in the low asset intensity sample group, there is a cost stickiness of -0.882 which is significant at the 0.01 level.

**Table 4.** the regression testing result of Asset and Employee Intensity  
The regression testing result of the sample groups (HAI & LAI) and (HEI & LEI).

Variable	Labor Costs			
	HAI	LAI	HEI	LEI
$\gamma_1 = \ln \left[ \frac{P_t}{P_{t-1}} \right]$	0.650*** (6.141)	0.431*** (3.897)	0.217 (1.534)	0.769*** (9.510)
$\gamma_2 = \ln \left[ \frac{P_t}{P_{t-1}} \right] \times DD_t$	-0.881** (-2.098)	-0.116 (-0.347)	-0.018 (-0.048)	-0.882*** (-2.534)
Constanta	0.022 (1.360)	0.068 (3.795)	0.095 (4.044)	0.015 (1.247)
Observation	40	60	40	60
Adjusted R <sup>2</sup>	0.504	0.205	0.019	0.637
Z test		-1.427		1.679

Notes. HAI: High Asset Intensity; LAI: Low Asset Intensity; HEI: High Employee Intensity; LEI: Low Employee Intensity.

The results of the regression coefficient test between the sample groups of high and low asset intensity are  $-1.427 > 1.290$  at the 0.1 level. This shows that there is a slight difference of state-owned banks listed on the IDX between the high and low asset intensity



sub-sample. SOBs listed on the IDX during the period 2001-2020 improve slightly asset investment.

The results of the regression coefficient test between the sample groups of high and low employee intensity are  $1.679 > 1.660$  at the 0.05 level. This shows that there is a significant difference from state-owned banks listed on the IDX between the high and low employee intensity sub samples. SOBs listed on the IDX during the 2001-2020 period committed to government programs, i.e. reducing unemployment and expanding employment opportunities.

## **5. DISCUSSION**

This study examines whether the SOBs associated with costs stickiness. The results of this study find that the association of between SOBs and cost stickiness are not supported. The results of this study in lines with the research of Banker and Byzalov (2014) but it is different with the research of Banker et al. (2013) and Dierynck et al. (2012).

However, the asset intensity only slightly influences on cost stickiness of SOBs and the employee intensity significantly influences on cost stickiness of SOBs. The results are consistent with the purpose of SOBs, i.e. reducing unemployment and expanding employment opportunities in Indonesia. Because of the majority shareholder from SOBs are the government of Indonesia.

## **6. CONCLUSION, LIMITATIONS, AND SUGGESTIONS**

### **Conclusion**

This study aims to investigate whether the type of ownership, i.e. the listed SOBs influence cost stickiness. This study tested the hypothesis which states that the type of bank ownership (SOBs) listed on the IDX has an effect on cost stickiness. The panel data is utilized by this study with a sample of 100 listed bank observations per year of the IDX during the period of 2001-2020. This study also examines the cost stickiness of the listed banks based on the intensity of asset and employee according to the studies of Anderson et al. (2003) and Dierynck et al. (2012).

The results of this study indicate that listed SOBs of the IDX influence cost stickiness are not supported. However, the cost stickiness of SOBs in the Indonesian capital market related to the sub-sample of high asset intensity and low employee intensity are supported. Even though SOBs aim to profits-oriented, but SOBs also commit to government programs, i.e. reducing unemployment and expanding employment opportunities.

This findings are not in line with the study of Hall (2016) regarding cost stickiness. Hall (2016) give empirical evidence that the state-owned banks in US tend to cut labor costs in avoiding financial pressure from the public and the costs are not sticky. But the result of this study finds that the state-owned banks in Indonesia influence sticky cost but it is not significant. This study also finds there are differences between the SOBs that have high and low asset and employee.

### **Limitation and Suggestions**

The limitation of this study is the small number of samples of SOBs listed on the IDX, i.e. five banks. So, the number of research observation samples during the period 2001-2020 is 100 bank observations per year. Future research can examine whether the type of private banks ownership influence sticky cost.

### Acknowledgment (If Any)

This paper is funded by Institution of Research and Community Service from Universitas Kristen Maranatha, Bandung, Indonesia.

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